

This is the first draft of the chapter on the Flop in Hold'em Brain by King Yao. Please email feedback, suggestions, comments, opinions, questions to KingYao@HoldemBrain.com or you could use the Feedback Form to email me at the bottom of the page.

Hold'em Brain: The Flop

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The Flop is a critical point in Hold'em. Players get to see three cards on the Flop, which is more cards than in any other round in the game. Along with the two starting cards, it means each player will now know five out of the seven total cards that can be part of their hand. There is enough information that most players should know how to proceed from this point forward with some degree of certainty. Since the betting on the Flop is still on the cheap side, it means many players will use this round to pose and to jostle for positioning. This means aggressive play is not as meaningful as it may be on the Turn or River.

Thinking on the Flop

There are two main steps to analyzing the Flop. The first step is to analyze what the Flop means for your hand. The second step is to see what it may do for other player's hands. The third step is to see how other players may analyze the Flop in relation to your hand.

Step 1: Analyze what the Flop means for your hand

If you started with a drawing hand pre-Flop, you need to see if the Flop keeps your draw alive. For example, if you started with 9♥8♥ and the Flop is three completely unrelated cards, such as A♣T♦3♦, then it is usually best to give up at this point. The only time you may want to try a play on the Flop is if you had raised pre-Flop with only one or two callers and it is checked to you on the Flop. A bet on the Flop may win you the hand right there. On the other hand, if you picked up a draw with your 9♥8♥, then you may continue depending on the strength of the betting. With a Flop of T♥7♥3♣, where you have a straight flush draw, you will be able to stay around until the River to see if you have caught your hand. However, not all draws are worthwhile to continue with on the Flop. For example, with the 9♥8♥, if the Flop is T♦6♠3♠, you should always fold if there is a bet and a raise, and you should consider folding to just one bet.

If you started with a made hand, such as a big pocket pair, the first step is to see if any overcards or pairs have hit the board. If either of these happens, then it means any player would only need one card in their hand to have a better hand than yours. For example, if you hold Q♣Q♥, and the Flop is A♥9♣3♣, then any player with an A would have a better hand. Also, a Flop of J♣J♥3♠ would mean any player with a lone J in their hand would have a better hand.

If there are no cards higher than your pair and no pairs on the board, then usually it is a good sign. But you will need to be aware of flush draws and straight draws. For example, with Q♣Q♥, a Flop of J♦T♣3♦ is much more dangerous than a Flop of J♥6♣3♦. This is because in the first Flop of J♦T♣3♦, there are possible straight draws (a player with KQ, Q9 or 98 would have an open-ended straight draw) and flush draws (a player with two diamonds would have a flush draw). Meanwhile, in the second Flop of J♥6♣3♦, draws are less likely, thus it is a less dangerous Flop.

When you have a big pocket pair, you are normally worried about an overcard hitting the board. The only pocket pair that does not have to be worried about overcards is AA. The following table shows the percentage of Flops that will have at least one overcard to your pocket pair, and the percentage of Flops that will not have any overcards to your pocket pair.

Pocket Pair	Percentage of Flops that will have at least one overcard to your Pocket Pair	Percentage of Flops that will NOT have any overcards to your Pocket Pair
AA	0%	100%
KK	22.6%	77.4%
QQ	41.4%	58.6%
JJ	57.0%	43.0%
TT	69.5%	30.5%
99	79.3%	20.7%
88	86.7%	13.3%
77	92.1%	7.9%
66	95.8%	4.2%
55	98.1%	1.9%

If you started with two big cards and caught a pair, then it is usually a good sign. If you did not catch a pair, you may still have a chance to win the hand depending on the number of players left in the hand and the quality of the Flop.

Step 2: Analyze what the Flop may mean for other players' hands

Whether or not you have a possible straight draw or flush draw, you need to watch out for any and all possible draws. Flush draws are the easiest to see on the Flop, as any Flop with three or two cards of the same suit means there is a chance someone is on a flush draw. Straight draws are a bit tougher to see. If there is a two gap or less with any two cards on the Flop, then it means there is a chance there is an open-ended straight draw.

Here are some Flops that would give a possible open-ended straight draw

Flop	Hands that would have an open-ended straight draw
Q-J-3	KT, T9

Q-T-3	KJ, J9
Q-9-3	JT
Q-9-7	JT, T8, 86

If there is a three gap with any two cards on the Flop, then it means there is a possible inside straight draw. These are less worrisome since it would be tougher for an opponent to catch them.

If a player has shown aggression pre-Flop, with a raise or a re-raise, it usually means a pair or two big cards. This means Flops that contain an A are very dangerous, and those with a K or Q may be dangerous as well. For example, if a reasonable player raised in middle position, he likely has a pair or two high cards. If you call with a drawing type of hand such as 87s, and the Flop comes A-7-3, there are very few hands your opponent could have that would allow your hand to be ahead. Although you may have 5 outs, it will still be likely you do not have pot odds to continue with a hand like this. However, if the Flop comes 7-3-2, now you are ahead unless he had a bigger pair, a set or a 7 with a higher kicker.

Step 3: Analyze what your opponent(s) may think about your hand based on the Flop

Usually when you Flop a middle or low set, it is tough for your opponents to see what you have made. For example, if the Flop is A-T-8 and you held 88, any player with an A may feel fairly strong, especially if they have a strong kicker. Your three 8's will be difficult for any opponents to see or read. With a disguised hand like this, and a possible strong hand from your opponent, you can play aggressively on the Flop. This is because you know your aggressive play will likely not lose any customers on the Turn since you are assuming he has a split pair of A's.

If you had raised pre-Flop, then other players will usually put you on a pair or two big cards (and for the most part, they would be correct). The sharp players will also notice if the Flop comes without any big cards. If you do have a big pair, this is good for you as they will be willing to give you more action. For example, if you have AA, and the Flop is 8-3-2, you will get paid off more than when the Flop is A-3-2.

Betting on the Flop

The Flop is the time to try the strategy of raising for a free card. You should do it against opponents who will check to you on the Turn when you do raise on the Flop, thus allowing you to see a free card. You should also be aware of other opponents who may be trying this, because you may want to re-raise them on the Flop or bet into them on the Turn if it looks like their draw did not make it yet. See the chapter on Free Cards for more on free card raising strategy.

Raising for a free card twice may also be useful. This happens when you get re-raised by a player after you raised for the free card. For example, your opponent bets, you raise with a flush draw, but instead of just calling, he re-raises. You believe he is re-raising because he thinks you are on a free card flush draw. You may consider raising again to finally get that free card. In order for it to be useful, you have to be sure that he will now believe you have a legitimate made hand and that he will not bet out on the Turn to thwart your double free card raises.

If you are in early position, a check-raise is a plausible strategy. This strategy is best suited for the Flop because it is easier to count on the pre-Flop raiser to bet on the Flop than on any other round.

There are two reasons for a check-raise on the Flop. The first is to get more money in the pot against just one or two players because you think you have the best hand. The second is to check-raise and make it expensive for any other player to stick around to see the Turn. If you are in early position and have a probably best hand, but you think it is vulnerable to overcards, you may decide to check with the intention of raising if you can count on a late position player to bet.

For example, if you have A9 in early position, and the Flop is 9-6-3, there are numerous overcards to your pair of 9's. If you bet out into a field, any player with two overcards likely has pot odds to call and see the Turn. However, if you check and get the opportunity to raise a late position player's bet, then you can make it too expensive for a player to call with just two overcards. Then they would not have proper pot odds to call. If they do, they would be making a mistake which can benefit you, so now you would not mind if they did call.

Raising with the Nut Flush Draw on the Flop and Turn

There are times when you actually want to raise with a nut flush draw on the Flop without pot odds considerations. This is when you believe there are enough players who are going to call bets that you are being offered the correct odds on that round alone to keep raising.

When you have the nut flush draw on the Flop, there will be 9 outs to make your flush and 38 non-outs. If there are 4 other players in and you have the nut flush draw on the Flop, it is sound strategy to keep raising even if you do not have position because you have plenty of chances to hit your nut flush. In this case, you are not even worried about the pot odds as it concerns the whole pot, you are only concerned with the pot odds on this round alone.

On the Turn, this idea may work as well. If you can get 4-1 odds, you are usually happy to keep raising. Sometimes another player may have two pair or a set, in which case your odds may be reduced down to 3-7, in which case you would need at least 5-1 to keep raising. The reason you can be safe with 5-1 odds is because if someone has a good hand like a set or two pair, you can usually expect to gain more bets from them on the River when you do get your flush. Of course, having five players calling on the Turn is quite unusual, and when these situations occur, sometimes some of the players may actually be on a flush draw as well, which will hurt your chances of making the flush.

Playing AK on the Flop

AK is a nice starting hand in Hold'em, but once the Flop comes, AK could turn into a poor hand very quickly. AK is a tough hand to play if neither an A or a K comes on the Flop. Sometimes AK turns into a drawing hand as you are fairly comfortable that if an A or a K comes on the Turn or River, that your hand may be good. Other times, AK can still be a decent hand even without a pair, this can happen when no one else has a pair. Here are some scenarios of how to play AK when the Flop is not favorable.

When to check with AK on the Flop

If there are several opponents and the Flop completely misses your AK, do not think you are obligated to bet if it is checked to you. Too many players think since they raised pre-Flop with this

hand that they are forced to bet it on the Flop even if it misses them and there are numerous players. This is incorrect. It is ok to check with AK on the Flop when the situation calls for it.

Example:

You are on the Button in an 8 handed game and two players have limped in front of you. You raise with A♣K♦, a legitimate raising hand even with the two limpers in front of you. Both blinds call as do the two limpers. Five players see the Flop.

Flop: Q♠9♠3♣

If all players check to you, it is all right to check along and see a free card on the Turn. With two relatively high cards (Q and 9) and two cards of the same suit, many players likely would have interest to continue with the hand. In fact it is possible one of the blinds has checked with plans to check-raise when you bet. The best card that can come out for you is an A or a K, but even then, those cards are dangerous as someone could very well have two pair when an A hits. Also someone could easily have a straight with JT if a K hits. Checking in a spot like this is not a weakness, it is simply a smart play.

When to bet with AK on the Flop

If it is checked to you and there are not many opponents (3 at most, hopefully 1 or 2 only), then you should always bet. The first reason is that you may still have the best hand and pick up the pot right there. The second reason is that even if you do not currently have the best hand, it is very possible you could catch the best hand on the Turn or River. For example, you raised pre-Flop in late position and both blinds call. The Flop comes 8-6-3 rainbow, and it is checked to you. You should bet and hope they both fold. If you get check-raised, you can call because you will usually have enough pot odds unless he has two pair or has one of your cards counterfeited.

When you have AK with a Flop of K-8-8

This is a great Flop if none of your opponents has an 8 but one or more has a K. Any other player with a K is in danger of losing to your pair of K's with the best kicker. There are two K's left in the deck as well as two 8's left. Since players are much more likely to play a starting hand that contains a K than an 8, it means you should be a big favorite in this hand. You should be betting this hand aggressively on the Flop.

When you have AK and the Flop is Q-J-x rainbow

When you have AK and the Flop comes with a Q and a J, then a T will give you a straight, although an A or a K may not be an out. For example, you could be up against one player with AQ and another player with T9. But if your opponent(s) do have a pair, but without an A or K, then either of those cards could be an out for you as well. Sometimes either the A or the K will be an out, but you cannot be sure which one is an out. A Flop of Q-J-x is a dangerous Flop for AK. If there is too much pressure, you may need to dump this hand on the Flop (if there is a bet and a raise) or on the Turn (if a player you think has AQ, KQ, AJ, KJ has bet).

When there is a three Flush on the Flop

When three cards of the same suit come on the Flop, many players will hang around with just one card of that suit. The very loose players will hang around with any card of that suit, including just

the deuce. More reasonable players will hang around with the T or higher of that suit. This means that if you have a pair, you may be correct to be betting until you do see a fourth card of that suit or you get raised. If you have a hand like $Q\heartsuit J\clubsuit$ and the Flop is $Q\clubsuit T\clubsuit 3\clubsuit$, you should bet strongly.

The $A\clubsuit$ and the $K\clubsuit$ will definitely stay in the hand if not doing some raising themselves. If someone has a pair of Q's with a better kicker, then you have outs. The hand you would be most scared of is $K\clubsuit Q\heartsuit$ or $A\clubsuit Q\heartsuit$ as those hands would have a better kicker along with a better flush draw.

The importance of betting on the Flop after you have raised pre-Flop even when you do not have anything

There are a couple of important reasons to bet on the Flop even if the Flop is not favorable to you.

If you have raised pre-Flop, then oftentimes the other players will check it to you. Even if you have nothing, the other players may have nothing too, so a bet from you may actually win the pot right there. A bet here is best when there is a limited number of opponents. You want there to be a chance that all of them will fold when you bet. Also if you check, you would allow someone to possibly bluff you on the Turn as they sensed your weakness on the Flop. For example, if you have AJ and you had raised pre-Flop in late position, you should bet if the Flop comes K-3-2. It will be tough for anyone who does not have a K or a pocket pair or a pair to call you. You may actually have the best hand so you would prefer to take the pot right now instead of giving free cards to any of your opponents.

You have AA. Would you rather be up against a draw or nothing?

If you have pocket A's, you have the best starting hand in Hold'em. If you are up against only one opponent on the Flop, would you prefer that he has a flush draw or that he has absolutely nothing?

If he has a flush draw, then he will call on both the Flop and Turn. On the River, if he has made his flush, he will bet out and you will lose an additional bet. If he has nothing, he will simply check and fold to your bet on the Flop. Let's go through an example.

You have $A\heartsuit A\diamondsuit$ and you open-raised in the cutoff position. The big blind is a loose, passive player, and he calls your raise with $3\clubsuit 2\clubsuit$. There are two players with 2.25 big bets in the pot. Let's compare the situation with two different Flops.

Your hand: $A\heartsuit A\diamondsuit$

Your opponent's hand: $3\clubsuit 2\clubsuit$

Flop A: $K\diamondsuit 9\heartsuit 8\diamondsuit$

Flop B: $K\clubsuit 9\heartsuit 8\diamondsuit$

With Flop A, your opponent will check and fold when you bet. Thus you are guaranteed to win the 2.25 big bet pot 100% of the time.

With Flop B, your opponent will call until the River with his flush draw. If he has not hit his flush by the River, then he will fold. Let's assume he will fold even if he hits a pair or two pair to make the calculations a bit simpler. Thus if he does not hit his flush, then you will win an additional 1.5 big bets. If he does hit his flush, you will lose 2.5 big bets to him as he will bet when he makes it,

and you will call. In this case, there are 45 unknown cards, and 9 cards will give him a flush. This means there is a 63.6% chance that he does not make his flush and a 36.4% chance that he will. Now we can compare the expected values of the two different Flops.

Action	Computations	Result
EV of Flop A (when he has nothing)	$100\% \times 2.25$	+2.25
EV of Flop B (when he has a flush draw)	$(63.6\% \times 3.75) + (36.4\% \times -2.5)$	+1.48

The expected value of Flop A is higher by a fairly big margin.

Instead of a flush draw, if your opponent had a split pair, then you would want him to call. With a split pair, he would have 5 outs. It is easier to do the calculations if we assume that when he catches trips or two pair that he will win the hand. In that case, he has a 21.2% chance to win the hand, and your expected value of him calling you down to the River has gone up to +2.42.

Your hand: A♠A♦

Your opponent's hand: Q♣J♣

Flop A: K♦8♠7♦

Flop B: K♠Q♦2♥

Action	Computations	Result
EV of Flop A (when he has nothing)	$100\% \times 2.25$	+2.25
EV of Flop B (when he has a split pair)	$(78.8\% \times 3.75) + (21.2\% \times -2.5)$	+2.42

Your expected value with Flop B is actually even higher than this. This is because he could catch two pair and still lose to you if you catch two pair or trips. For example, if the Turn is a J♠ (giving him two pair), the River could be a 2♣, thus giving you a better two pair (A's and 2's compared to his Q's and J's). So your chances of winning is even higher than 78.8%, and that means your expected value with Flop B is even higher than +2.42.

Of course, you run the risk of getting beat. With Flop A, it is almost impossible for him to win the hand, in fact, it is likely he will just fold on the Flop. With Flop B, you have a higher expected value, but now you can get hit with a bad beat and lose the hand. So the next time you lose on a bad beat, you should solace yourself with the fact that you actually preferred your opponent to be calling you hoping to catch a miracle card, because what that means in the long run is that your expected value should increase.

Top Pair with your lower card is better than with your higher card

Hold'em is a game where the kicker is important in many hands. This is one reason why AK is such a good hand compared to a hand with an A but a lower kicker. Often both of your cards will play, and it is the card that is not paired with the board that will make the difference between winning or losing the hand. This means that if you have a hand like AT, you would prefer that the Flop comes with a T-high board rather than a Flop with a A-high board. This may not sound right intuitively since a pair of A's is better than a pair of T's. However, the fact is that this is a community card game, and it does not matter how good your hand is except compared to other player's hands. If the board is an A-high board, that means you can be beat by many other hands that has just a pair of A's, such as AK, AQ and AJ. Meanwhile, if the board comes with a T-high board, you cannot be beaten with another hand that is just a split pair. Of course, an A-high board is beneficial to AT when your opponent has an overpair such as KK, QQ or JJ, so it has its benefits too. This is one reason that AK is such a good hand. Because if you Flop a pair with this hand, you will always have the best pair with the best kicker, and rarely will there be an overpair.

Another way to compare a T-high board versus an A-high board is to count the possible hands that your opponent could have. Let's assume that your opponent raised in middle to late position, and you think he raised with a legitimate hand. These hands would include AK, AQ, AJ, AT, KK, QQ, JJ, TT, 99, 88, KQ, KJs, QJs. Everyone folds to you in the big blind and you just call with AT. If your opponent will raise with any of those hands listed, then we can compare how good an A-high Flop is compared to a T-high Flop. Let's compare two Flops, one with A-3-3 and the other with T-3-3 to illustrate this concept. At this point, we only care about the hands that may switch positions with one Flop compared to another. For example, if your opponent has JJ, he is ahead of your AT when the Flop is T-3-3, but behind you when the Flop is A-3-3. But if your opponent has 88, then you would be ahead on both Flops of A-3-3 and T-3-3. So we need not compare 88 in this situation. Specifically, the hands we care about are AK, AQ, AJ, KK, QQ, JJ, TT.

With a Flop of A-3-3, the hands that your opponent could have that would be ahead are AK, AQ and AJ. The ones he loses to you are KK, QQ, JJ and TT. Given that there is a board with an A, that you have AT in your hand and that your opponent would have raised with any of those hands mentioned above, then there are 24 ways your opponent could have an A with a better kicker than you, while only 21 ways your opponent would have a lower pair than A's. The way to figure this out is that because you have an A and the board contains an A, then that means there are only two A's left in the deck. Those two A's can combine to have AK in 8 different ways, as well as AQ and AJ in 8 different ways each. So that makes 24 possible ways your opponent could have a pair of A's with a better kicker. Counting the pairs that your opponent could have works in the same way, with 6 possible combinations each for KK, QQ and JJ, but only 3 possible combinations for TT since you have a T. Notice that I am not counting AA, KQ or lower pairs because a Flop of A-3-3 is just as good (or bad in the case of AA) as a Flop of T-3-3 with the exception of overcards coming on the Turn or River in the case when T-3-3 is the board and your opponent has overcards. So overall, you expect to be ahead of your opponent 21 times while behind 24 times on the Flop. Of course things may change on the Turn and River, but we are only concerned about the Flop comparison right now.

Flop of A-3-3 and your hand is AT

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Your Opponent's possible hand	Number of ways he can have this hand	Percentage of the time he has this hand
AK	8	17.8%
AQ	8	17.8%
AJ	8	17.8%
KK	6	13.3%
QQ	6	13.3%
JJ	6	13.3%
TT	3	6.7%
Total hands that your AT is ahead against (KK, QQ, JJ, TT)	21	46.7%
Total hands that your AT is behind against (AK, AQ, AJ)	24	53.3%

In this situation against this opponent, when you have AT with a Flop of A-3-3, you will be ahead 46.7% of the time and behind 53.3% of the time.

With a board of T-3-3, the hands that your opponent beats you are the overpairs. KK, QQ, JJ and TT now account for 19 possible combinations. 6 each for KK, QQ and JJ, but only one possible combination now for TT, since you have one in your hand and the board has one as well. Meanwhile, the AK, AQ, AJ hands has now increased to 36 possible combinations. There is so many more possible combinations for these hands compared to the previous Flop because no A has flopped, which means there are three A's unaccounted for. Since your opponent was equally likely to raise with AK, AQ and AJ as he was with the big pairs, that means the probability that he had one of those A-high hands has increased since we do not see one on the Flop. This is analogous to the Monte Hall problem that we discussed in the Introduction chapter. This is because your opponent would raise with any of those hands, so the information on the Flop gives you information on his hand.

Flop of T-3-3 and your hand is AT

Your Opponent's possible hand	Number of ways he can have this hand	Percentage of the time he has this hand
AK	12	21.8%
AQ	12	21.8%

AJ	12	21.8%
KK	6	10.9%
QQ	6	10.9%
JJ	6	10.9%
TT	1	1.8%
Total hands that your AT is ahead against (AK, AQ, AJ)	36	65.5%
Total hands that your AT is behind against (KK, QQ, JJ, TT)	19	34.5%

In this situation against this opponent, when you have AT with a Flop of T-3-3, you will be ahead 65.5% of the time and behind 34.5% of the time.

This may not seem intuitive to some. One way to think about it is to randomly deal any one of those raisable hands to your opponent. Give him either AK, AQ, AJ, KK, QQ, JJ or TT. Now give the rest of the deck to a third person and tell him to tell you what cards you gave your opponent. If the third person is allowed to flip over every single card in the rest of the deck, then it is obvious what the answer is, since whatever is not there is what your opponent has. Even if the third person is only allowed to flip over half of the remaining deck, he should be able to narrow down the choices a bit based on the cards that he can see. He would be able to give a decent estimate of your opponent's holdings since he has some information of the cards that your opponent does not have. Now instead of allowing him to flip over half the deck, only allow him to flip over three cards, and then call it the Flop. Well, now it should also be obvious that while these three cards do not give you nearly as much information as turning over half the deck, it should still give you some information.

So, back to the situation where the Flop is T-3-3. In that situation, your opponent has 36 ways to have AK, AQ, AJ, these are hands that you are ahead against (of course, you can still get a bad beat on a later card, but that is not our concern right now). Meanwhile, your opponent only has 19 ways to have KK, QQ, JJ, TT, hands that would beat you. Keep in mind that if your opponent has AA, both Flops will be ugly for you. So there is no reason to count in that possible hand. It should be clear now that given a situation like this, you would prefer a lower ranking hand over a higher ranking hand, and that you would prefer a Flop of T-3-3 over a Flop of A-3-3. This is what is interesting about a game of community cards.